2015 Isuzu Truck

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

2014 Model Year NPR Diesel Specifications

MODEL	**NPR ECO-MAX**
GVWR	12000 lbs.
WB	110 in, 133.7 in, 151.4 in
ENGINE	Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel.
Model/Displacement	4JJ1-TC /183 CID /(3.0 liters)
HP (Gross)	150 HP @ 2800 RPM w Automatic Transmission
Torque (Gross)	282 lb./ft. torque @ 1600-2800 RPM
Equipment	Dry element air cleaner with vertical intake; 431 square inch radiator; 10 blade 17.7 inch diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check switch and light. Engine warning system with audible warning for low oil pressure, and high coolant temperature, and engine horsepower derate protection system based on coolant temperature. Engine cruise control function.
TRANSMISSION	Aisin A460 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th.
STEERING	Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column.
FRONT AXLE	Reverse Elliot I” -Beam rated at 6,830 lbs.
Suspension	Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers.
GAWR	5,360 lbs.
REAR AXLE	Full floating single speed with hypoid gearing rated at 11,020 lbs.
Suspension	Semi-elliptical steel alloy multi-leaf springs and shock absorbers.
GAWR	8,840 lbs.
WHEELS	16x6.0-K 6 hole disc wheels, painted white.
TIRES	215/85R-16E (10 pr) tubeless steel belted radials, Highway tread front and rear.
BRAKES	Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system.
FUEL TANK	25 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with Dual fuel filters, one mounted on the frame, and the other mounted on the engine with dash mounted indicator light.
FRAME	Ladder type channel section flair frame rail 29.5 in. wide at the platform load area. Yield strength 44,000 psi, section modulus 6.07 in3. RBM 267,080
CAB	All steel low cab forward, BBC 70.7 in, 45º mechanical tilt with
Equipment	TRICOT and JERSEY KNIT combination cloth covered high back driver’s seat with two occupant passenger seat. Dual cab exterior mirrors with integral convex mirror. Tilt and telescoping mounted exterior mirrors with integral convex mirror. Tilt and telescoping steering column. Power windows and door locks, floor mats, tinted glass, AM/FM CD radio.
ELECTRICAL	12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 110 Amp alternator with integral regulator.
	NOTE: These selected specifications are subject to change without notice.

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Vehicle Weights, Dimensions and Ratings

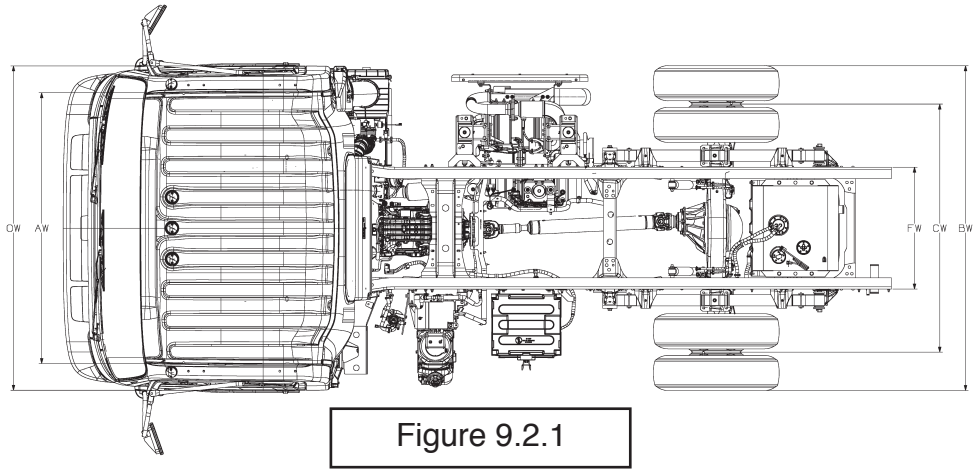


Figure 9.2.1

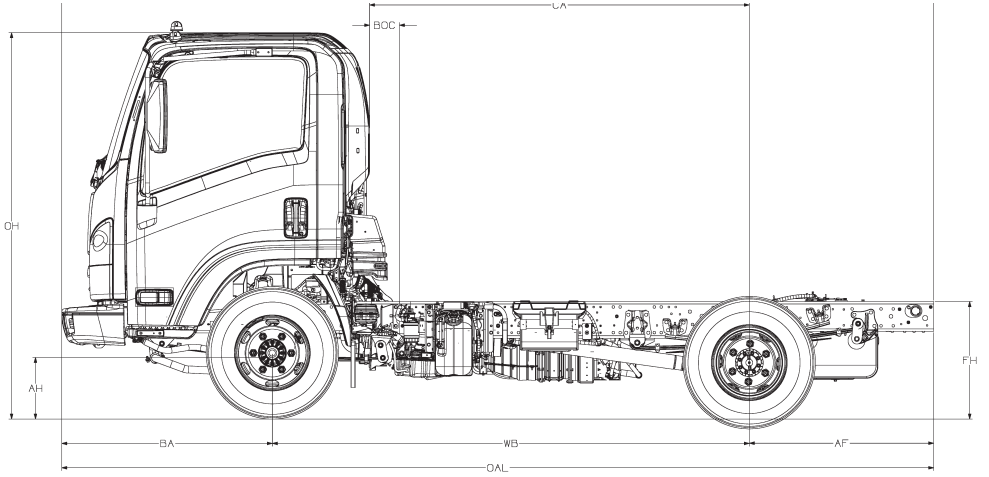


Figure 9.2.2

Variable Chassis Dimensions:

Unit	WB	CA*	CE*	OAL	AF
Inches	110.0	87.6	129.8	200.6	42.3
Inches	133.7	111.2	153.5	224.3	42.3
Inches	151.4	128.9	171.2	242.0	42.3

*Effective CA & CE are CA or CE less BOC

Dimension Constants:

Code	Inches	Code	Inches
AH	7.5	BW	78.6
AW	65.6	CW	60
BA	48.3	FW	29.5
BBC	70.7	OH	90.8
BOC	4.5	OW	81.3
FH	31.1		

In-Frame Tank
12,000 lb GVWR Automatic Transmission Model
Chassis Curb and Maximum Payload Weights

Model	WB	Unit	Front	Rear	Total	Payload
NJ1	110.0 in	lbs.	3498	1835	5333	6667
NJ2	133.7 in	lbs.	3577	1849	5426	6574
NJ3	151.4 in	lbs.	3615	1857	5472	6528

Estimated Max Body Weight Allowance based on max curb weight or 9,660 lbs.

Model	Body Allowance
NJ1	4327
NJ2	4234
NJ3	4188

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Vehicle Weight Limits:

GVWR	
Designed Maximum	12,000 lbs.
GAWR, Front	5,360 lbs.
GAWR, Rear	8,440 lbs.

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

RPO	DESCRIPTION STANDARD CAB	Weight (Lbs.) Front/Rear
IF4	Air deflector roof mounted	64.00 / 0.00
IF6	Fire extinguisher and triangle kit mounted in rear organizer	19.00 / 0.00
IG3	Oil pan heater (120volt, 300 watts)	2.00 / 0.00
I4H	FMS-CAN Interface	1.00 / 0.00
IY4	Delete Standard AM/FM/CD Radio	-3.00 / 0.00
I8H	AM/FM/CD radio with Aux inout/USB port and Bluetooth	0.00 / 0.00
IL9	PTO Enable Switch and an Engine Idle Up Switch recommended for PTO applications only. (2)	1.00 / 0.00
IS0	Heated Mirrors	1.00 / 0.00
I9H	Heated dual remote control mirrors (15” head)	1.00 / 0.00
IV8	Seat covers standard cab	6.00 / 0.00
IX2	Rear Body Dome Lamp Switch (4)	1.00 / 0.00
UZF	Back Up Alarm	0.00 / 2.00
IY9	Engine Idle Shutdown (timer set at 3 minutes for engine shutdown)	0.00 / 0.00
I9A	Engine Idle Shutdown (timer set at 5 minutes for engine shutdown)	0.00 / 0.00
IK9	33 Gallon Additional Diesel Fuel Tank mounted on LH side 151.4 wb std cab in rail tank only (5)	122.0 / 238.0
V22	Chrome Grille	1.00 / 0.00
54	In Rail Fuel tank with power windows, door locks and air conditioning	132 / -20
64	In Rail Fuel tank with power windows, power door locks and air condtioning and LSD (3)	132 / -5

(1) RPO is Regular Production Option that is stocked in port inventory
(2) These switches can be port or dealer installed. Please consult the body builders guide and / or the service manual for additional programming options and functions
(3) LSD factory installed Limited Slip Differential
(4) RPO must be ordered with Supreme Value Pak and Morgan Fast Track Body Programs
(5) Additional fuel tank moutned on the drivers side frame rail. Available with in rail tank only, available on 151 standard cab wheelbases only.
(Weights with fuel: 150/151 wb + 122 ibs. front and +238 ibs. rear)

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Frame and Crossmember Specifications

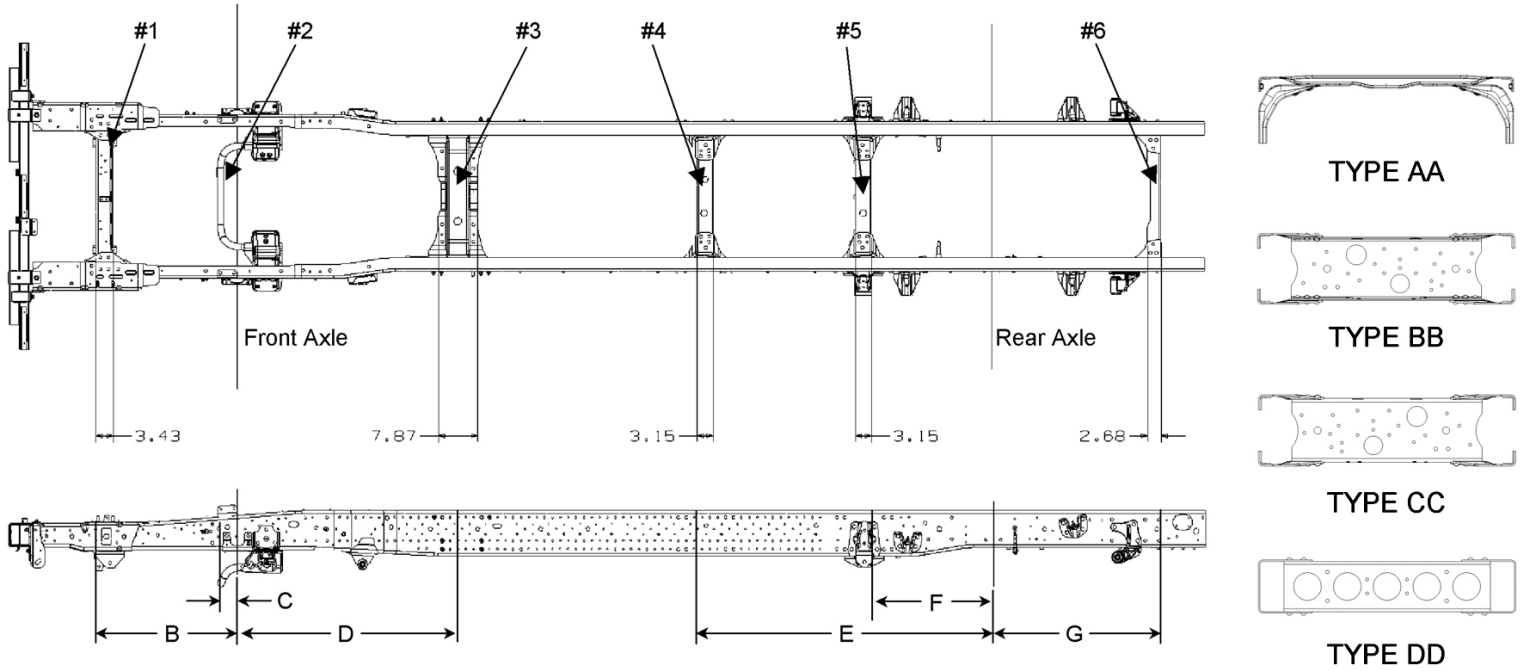


Figure 9.4.1

Wheelbase	Frame Thickness	Crossmember Type/Location									
		#1	#2	#3		#4		#5		#6	
		B	C	D	Type	E	Type	F	Type	G	Type
110	0.20	28.2	3.23	44.3	AA	N/A	N/A	24.2	CC	33.8	DD
134	0.20	28.2	3.23	44.3	AA	58.7	BB	24.2	CC	33.8	DD
151	0.20	28.2	3.23	44.3	AA	59.1	BB	24.2	CC	33.8	DD

Figure 9.4.2

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Frame Chart

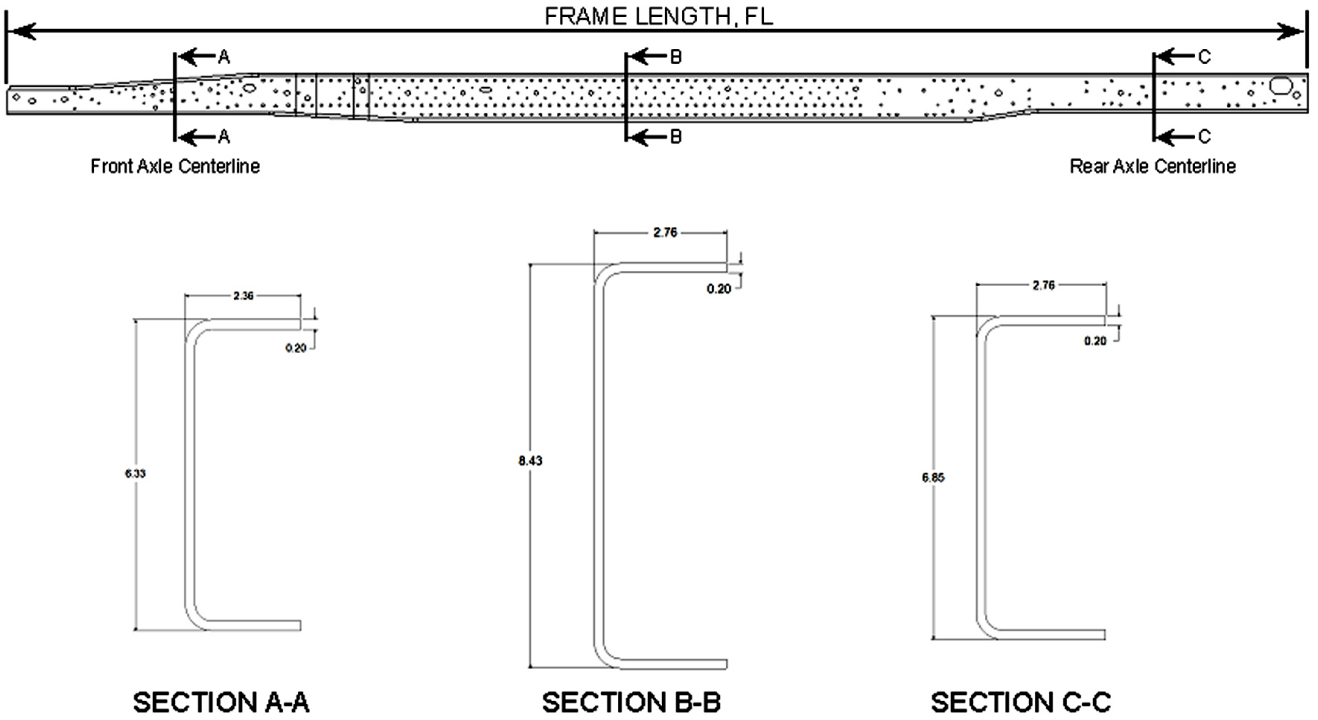


Figure 9.5.1

Wheelbase	Frame FL	Frame Thickness
110	182.9	0.20
134	206.5	0.20
151	224.2	0.20

Figure 9.5.2

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

NPR (12k GVWR) Diesel Standard Cab - Top View

WB
110
134
151

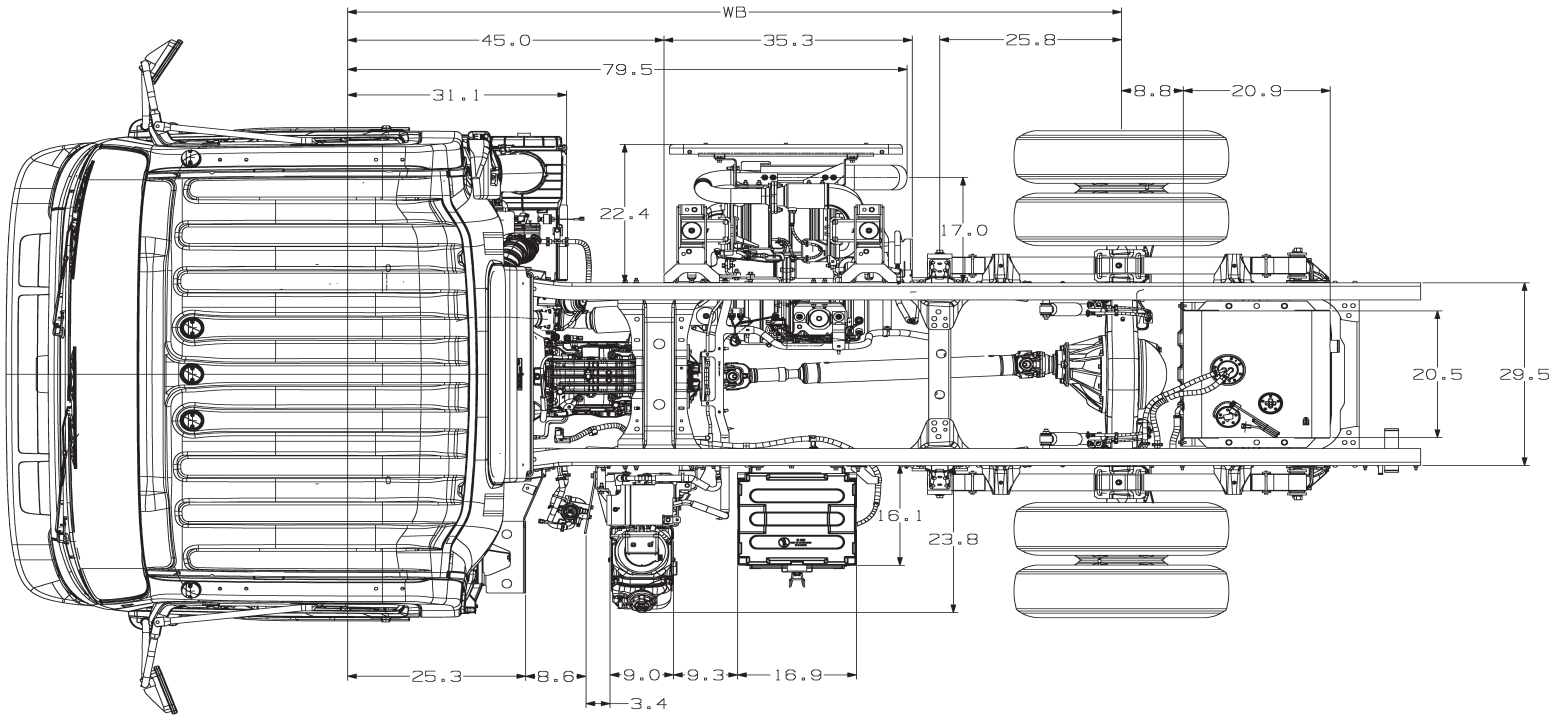


Figure 9.6.1

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

NPR (12k GVWR) Diesel Standard Cab - Left Side View

WB
110
134
151

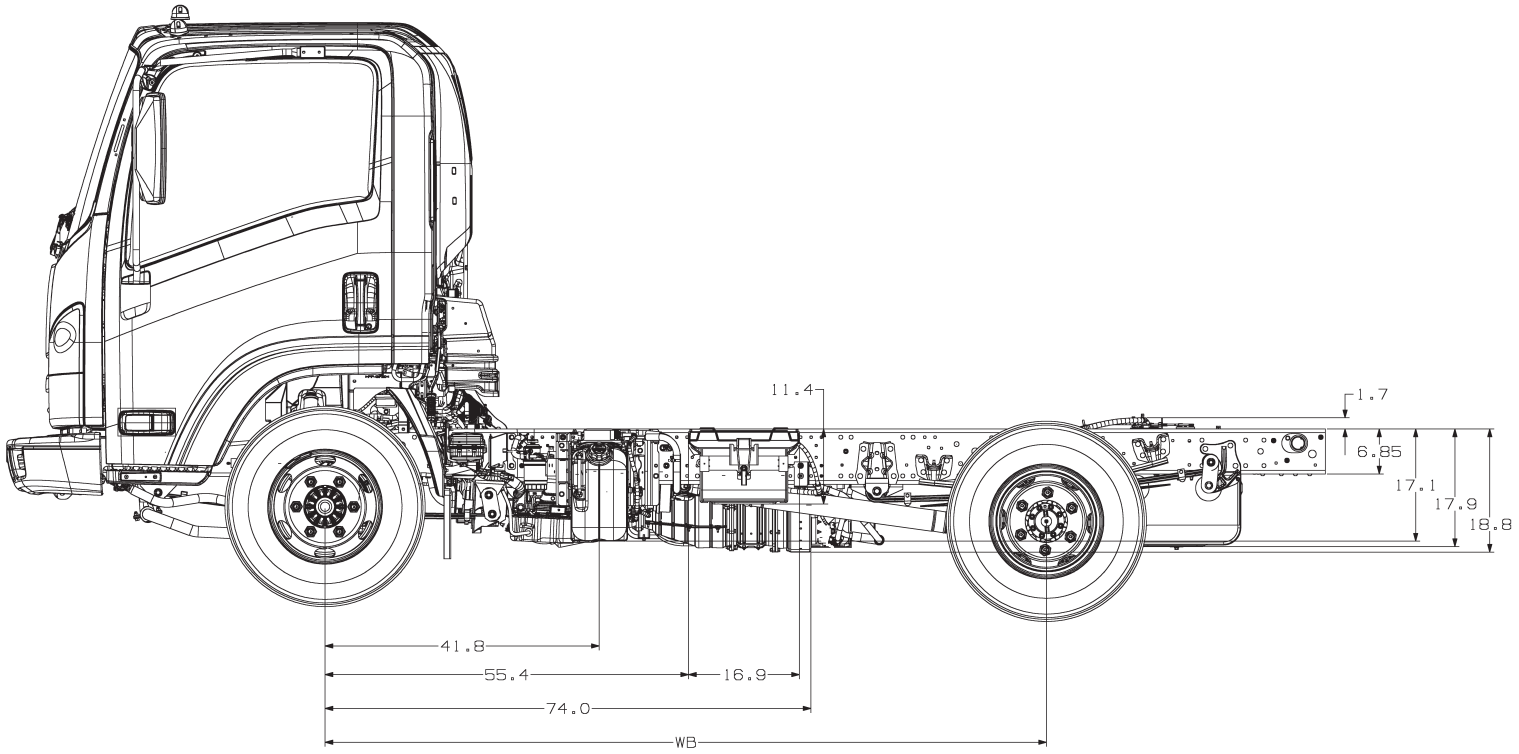


Figure 9.7.1

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

NPR (12k GVWR) Diesel Standard Cab - Right Side View

WB
110
134
151

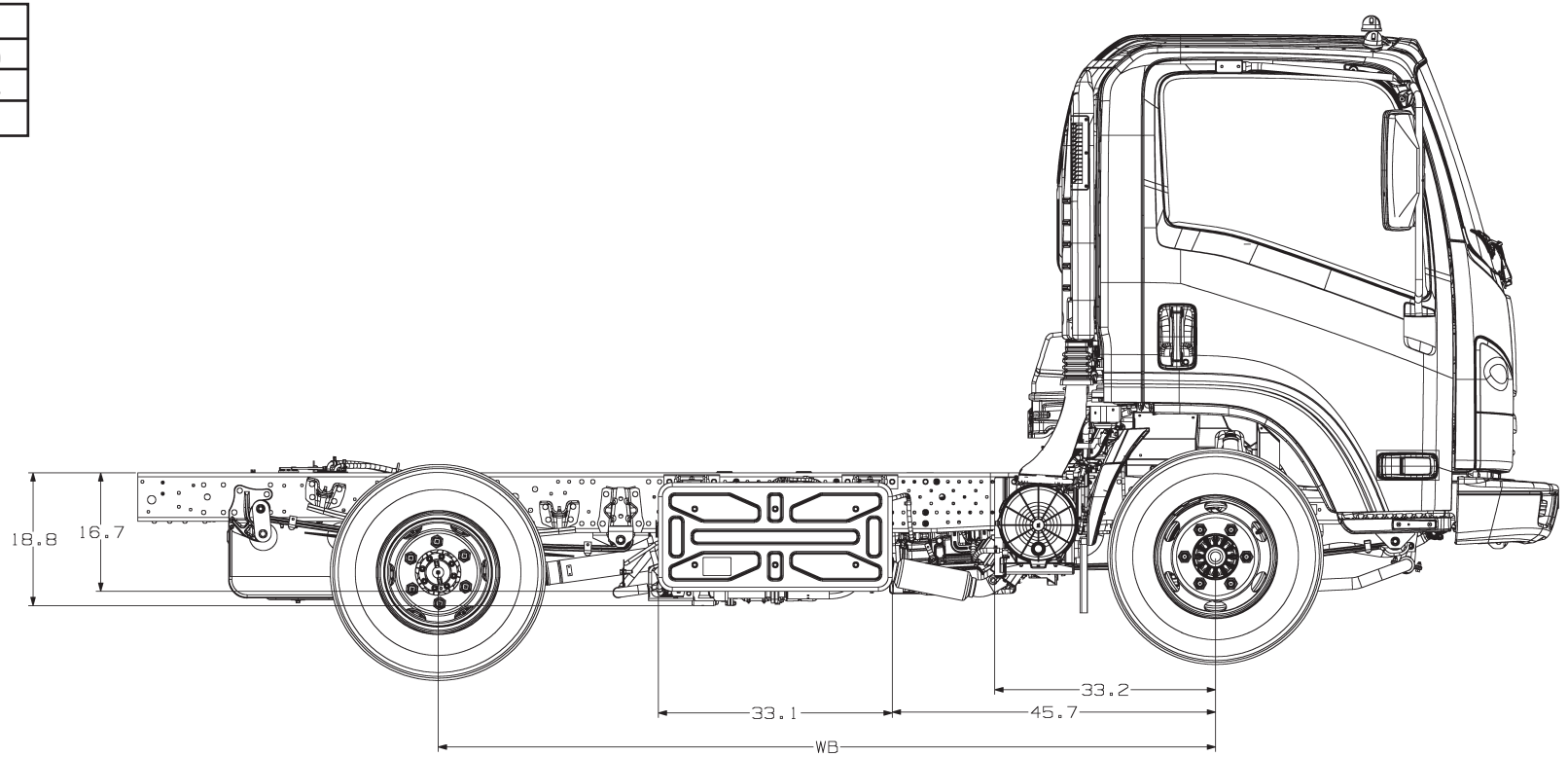


Figure 9.8.1

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Auxiliary Views - SCR / DPF 4JJ1-TC

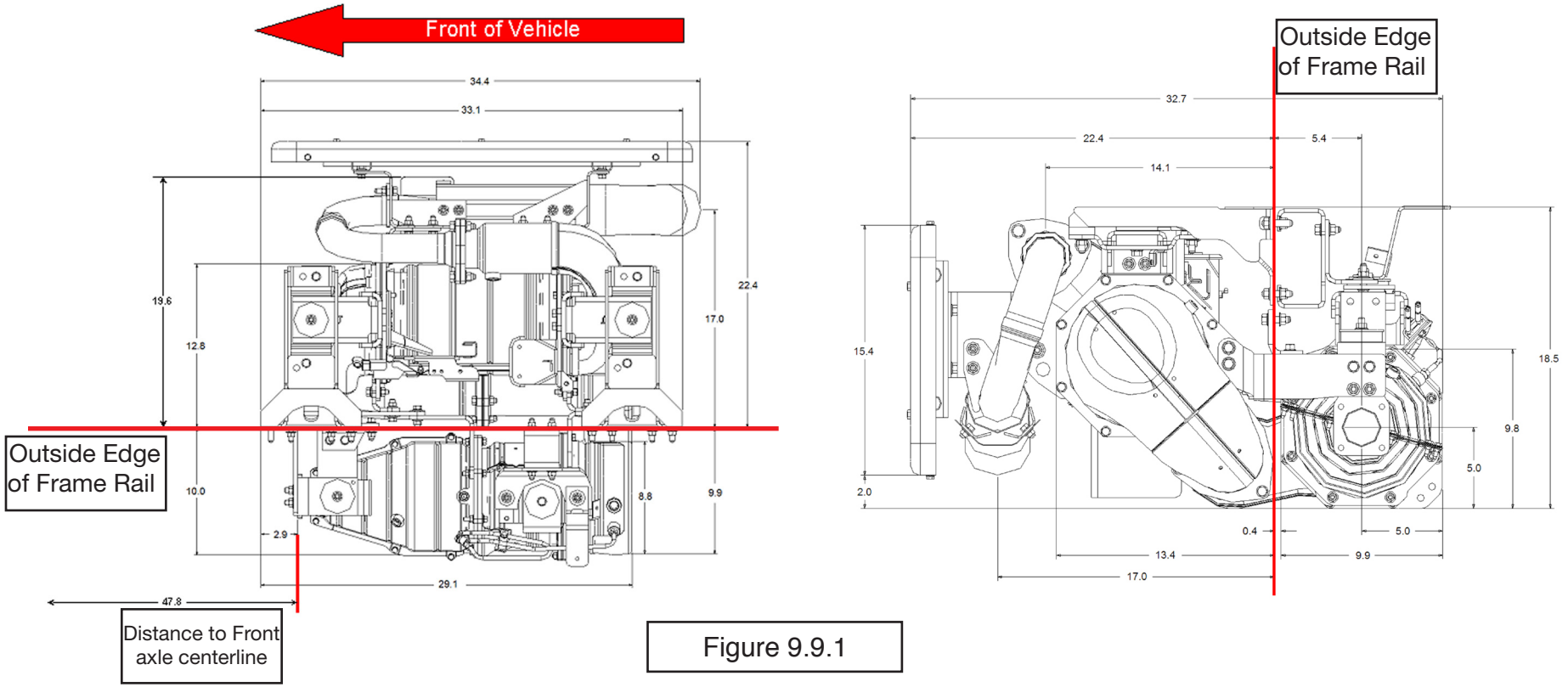


Figure 9.9.1

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Cab Tilt

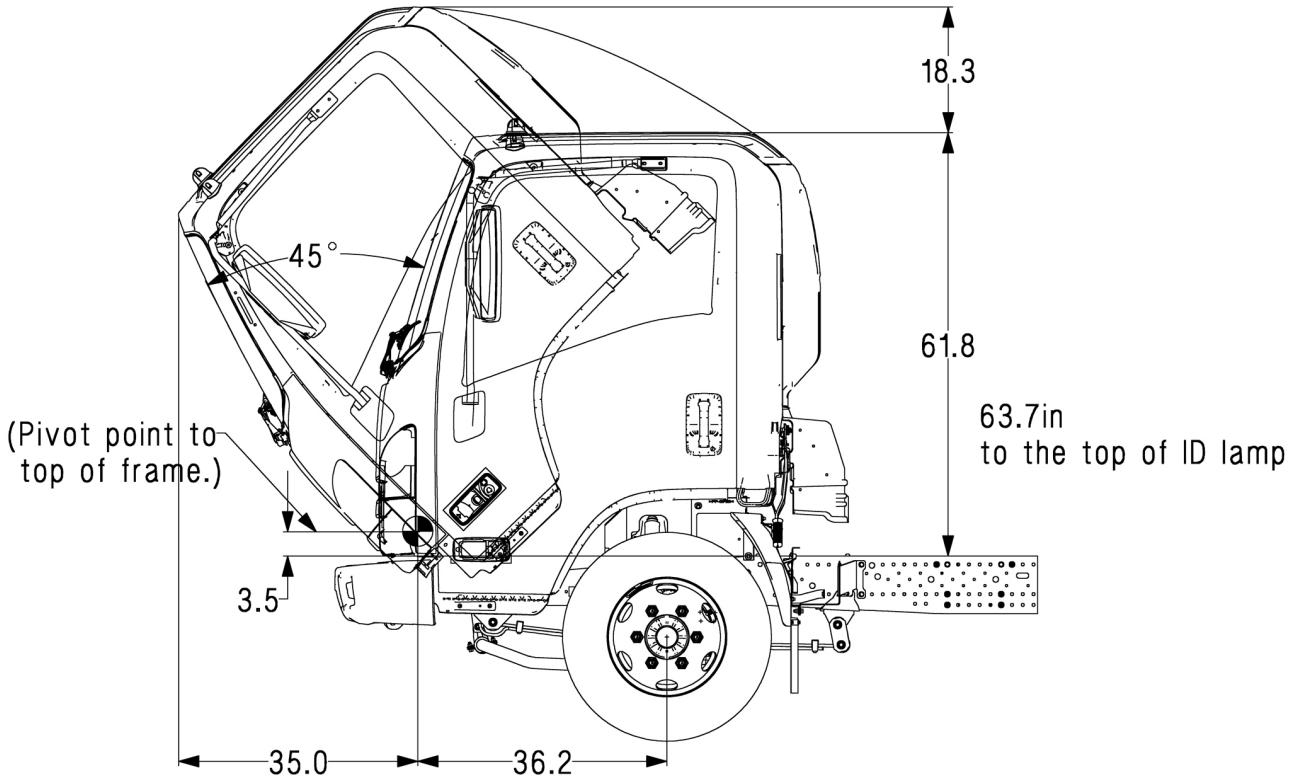


Figure 9.10.1

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Center of Gravity

The center of gravity of the chassis cab.

Horizontal and Vertical CG of Chassis		
WB	V	H
110	24.4	37.9
133.7	24.4	45.2
151.4	24.4	50.6

Figure 9.11.1

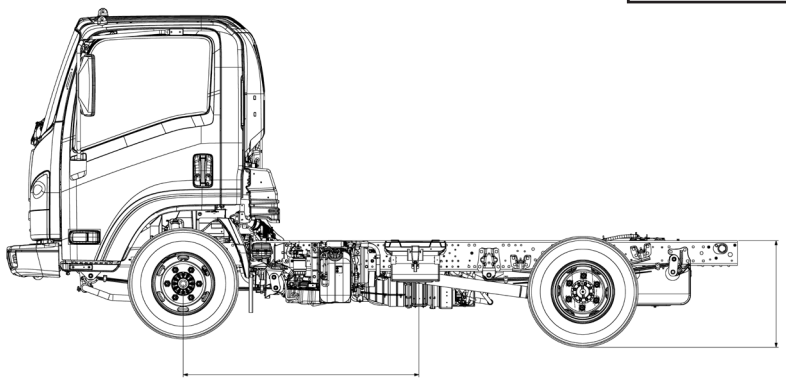


Figure 9.11.2

The maximum vertical center of gravity specified below must not be exceeded at maximum GVWR and rated front and rear GAWR. The Center of Gravity (CG) maximum is 63” (1600 mm) above the ground. (NPR Cab Chassis and NPR Stripped Chassis)

Note: Dimensions in inches

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Isuzu Incomplete Vehicle Document and the Isuzu Body Builders Guide.

Additional Information may be obtained by contacting ISUZU Commercial Trucks of America(ICTA)Applications Engineering on the West Coast call 1-562-229-5240 and in the
East Coast call 1-770-740-1620 X 262.

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Front Axle Chart

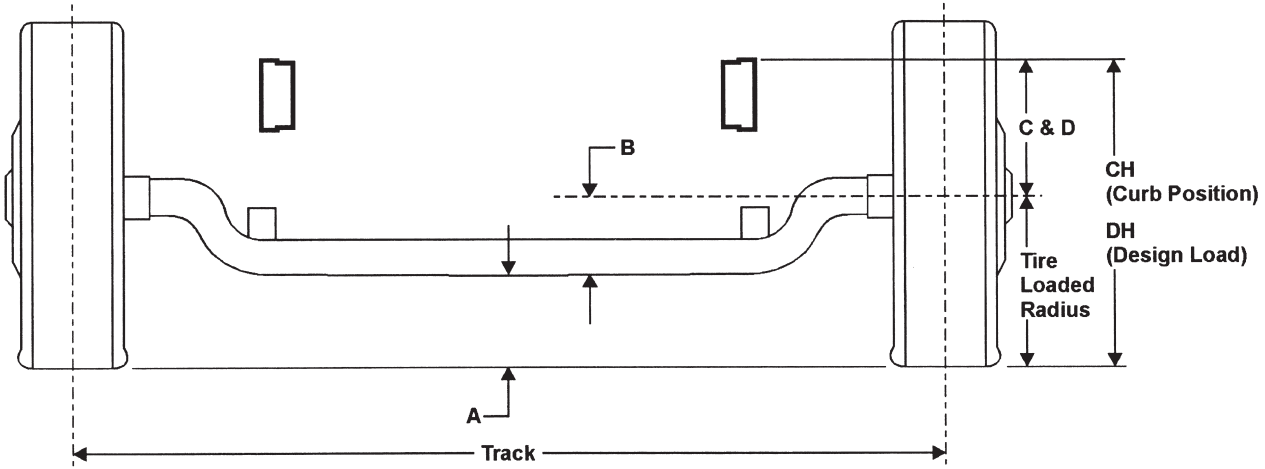


Figure 9.12.1

Formulas for calculating height dimensions:

A = Tire Loaded Radius – B
C = Centerline of Axle to Top of Frame Rail at Curb Position
D = Centerline of Axle to Top of Frame Rail at Design Load
CH = C + Tire Unloaded Radius
DH = D + Tire Loaded Radius

Tire	GVWR	GAWR	A	B	C	D	CH	DH	Track	Tire Radius	
										Unload	Load
215/85R 16-E	14,500 lbs.	5,360 lbs.	7.5	6.6	12.8	11.7	27.4	25.8	65.5	14.6	14.1

Figure 9.12.2

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Rear Axle Chart

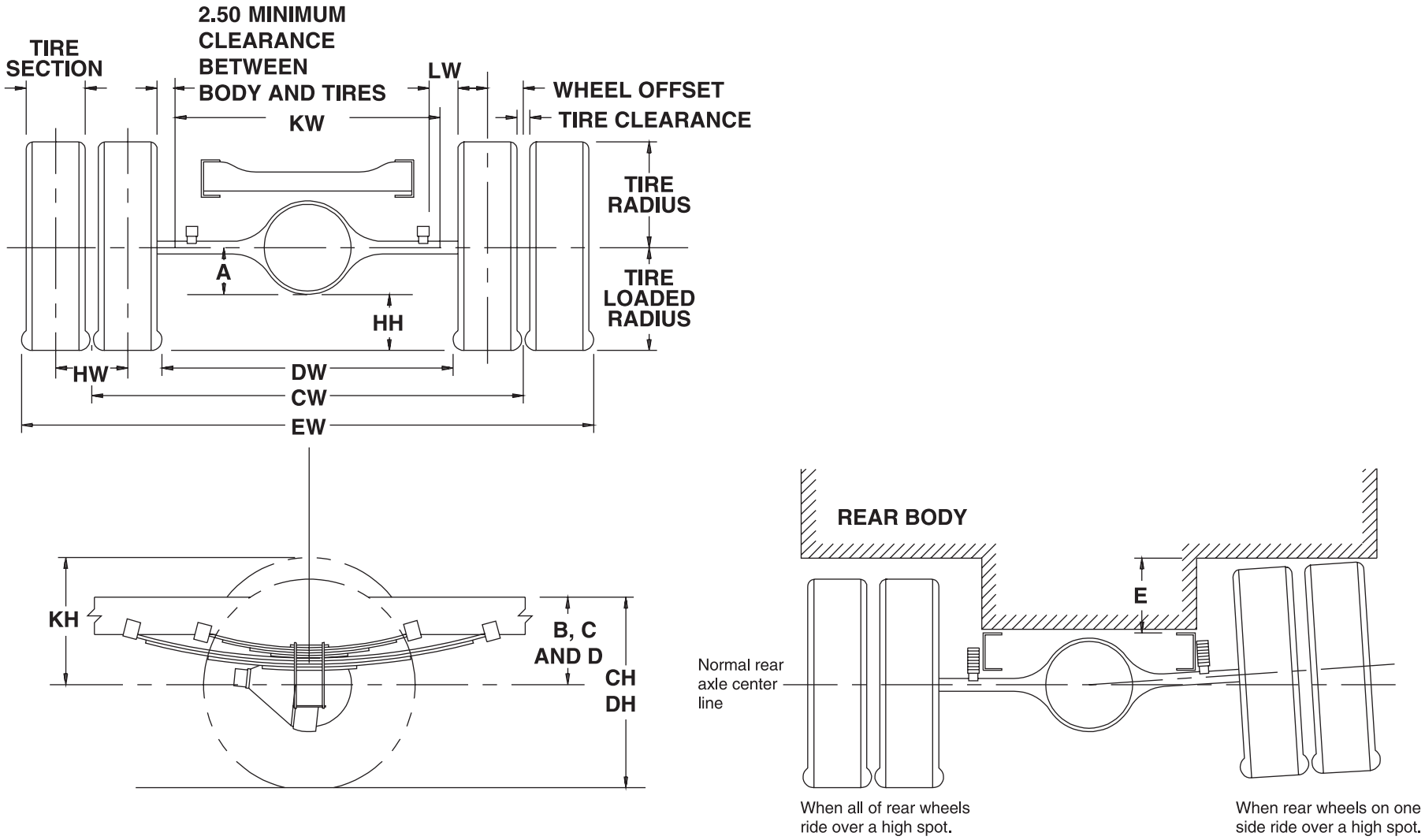


Figure 9.13.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Definitions			
A	Centerline of axle to bottom of axle bowl.	DW	Minimum distance between the inner surfaces of the rear tires.
B	Centerline of axle to top of frame rail at metal-to-metal position.	EW	Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires.
C	Centerline of axle to top of frame rail at curb position.		
D	Centerline of axle to top of frame rail at design load.	HH	Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line.
E	Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vertical centerline of the rear axle, when rear wheels on one side ride over a high spot.	HW	Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot.
CH	Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position.	CW	Track Dual Rear Wheel Vehicles: Distance between the centerlines of the dual wheels measured at the ground-line.
DH	Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load.		
	Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance		See Tire Chart for Values

Figure 9.14.1

Formulas for Calculating Rear Width and Height Dimensions			
CW	= Track	HH	= Tire loaded radius – A
CH	= Tire loaded radius + C	JH	= KH – B
DH	= Tire loaded radius + D	KH	= Tire radius + 3.00 inches
DW	= Track + 2 tire sections – tire clearance	KW	= DW – 5.00 inches
EW	= Track + 2 tire sections + tire clearance	LW	= 1.00-inch minimum clearance between tires and springs

Figure 9.14.2

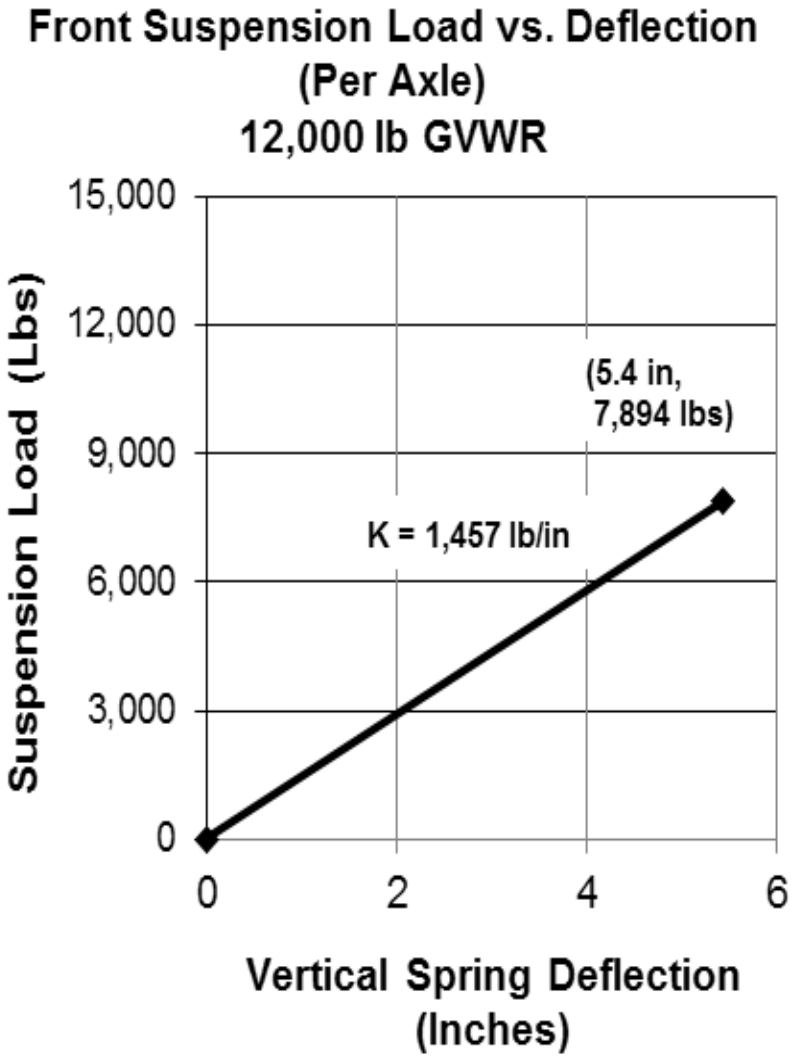
NOTE: Track and overall width may vary with optional equipment.

Tire	GAWR	Track CW	A	B	C	D	E
215/85R 16-E	8,840 lbs.	60.0	6.5	9.3	15.4	13.3	7.8

Figure 9.14.3

Note: Dimensions in inches

NPR Suspension Deflection Charts



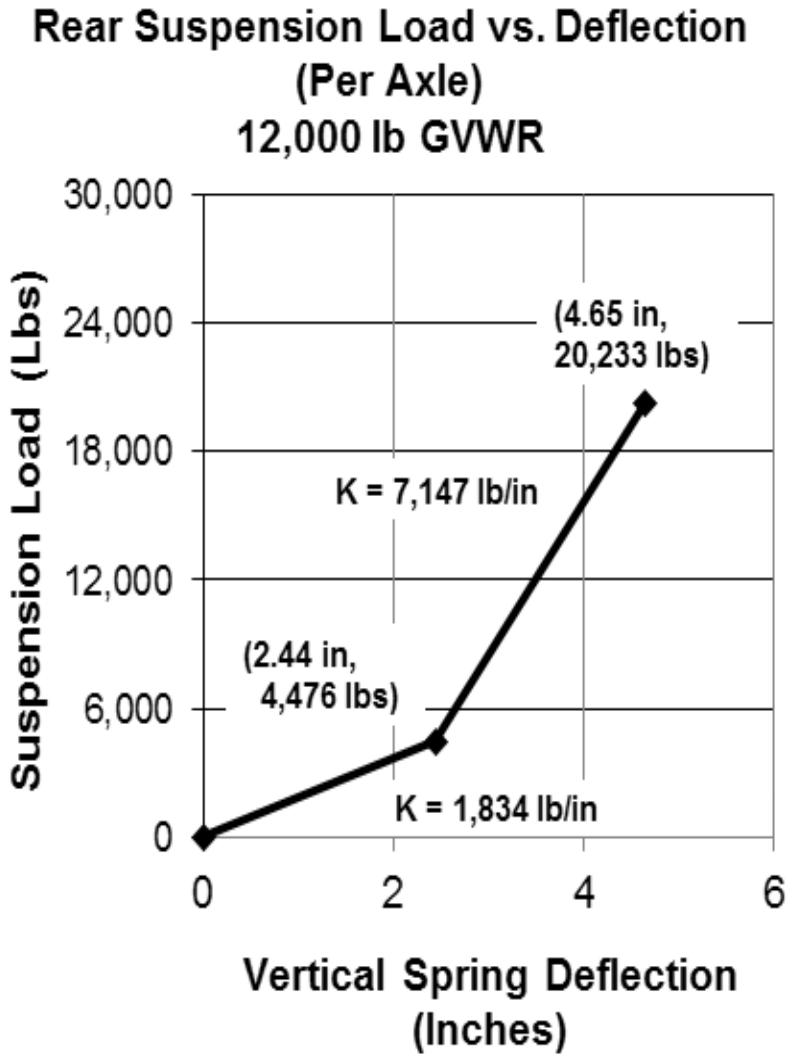


Figure 9.15.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Propeller Shaft

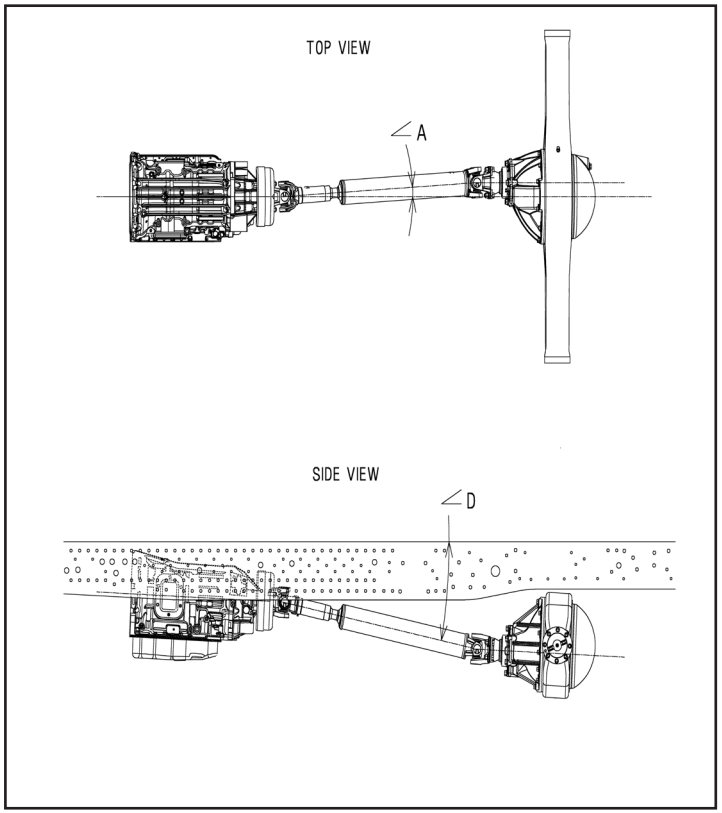


Figure 9.16.1

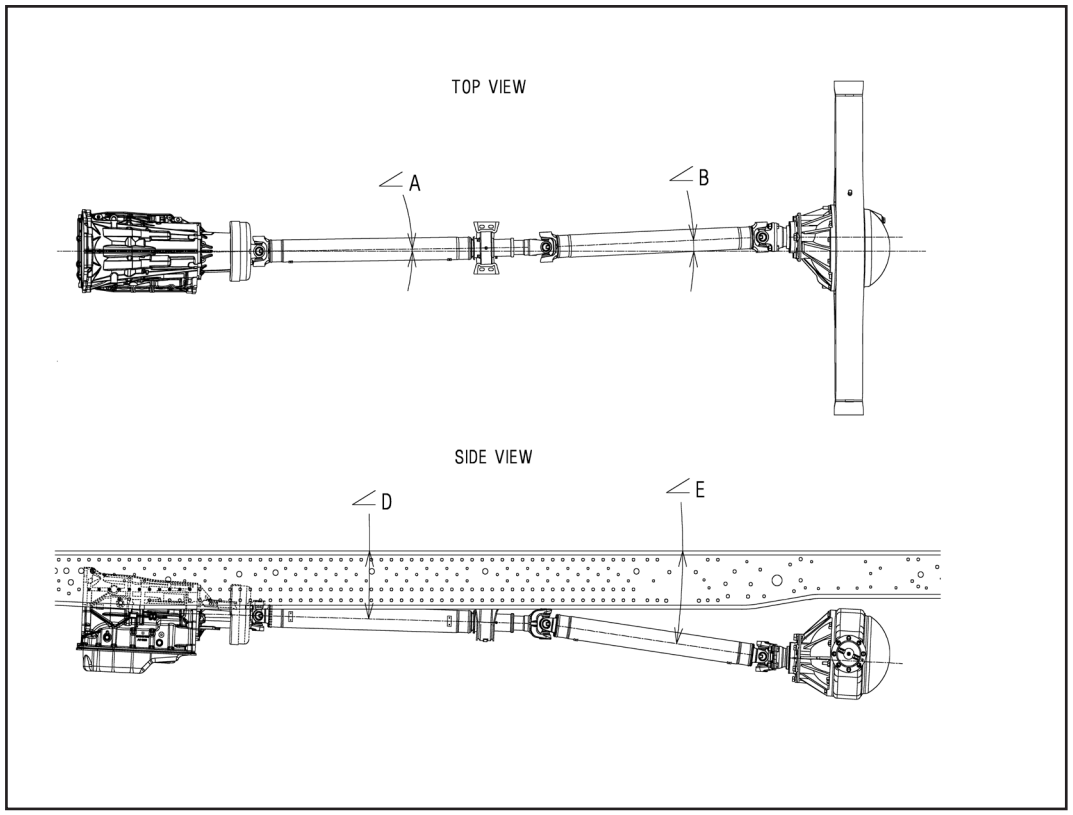


Figure 9.16.2

WheelBase (in.)	Top View		Side View			
	∠A	∠B	∠D	∠E	Trans	Rear Axle
110	2.6º	-	3.3º	-	2.5º	2.5º
133.7	0.9º	2.4º	4.5º	5.7º	2.5º	2.5º
151.4	0.5º	2.4º	3.6º	4.5º	2.5º	2.5º

Notes: 1. Angles privuded in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body, or payload.

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Wheelbase	110	133.7	151.4
No. of Shafts	1	2	2
Trans. Type	6A/T	6A/T	6A/T
Shaft #1 O.D.	3.25”	3.25”	3.25”
Thickness	0.0906	0.0906	0.0906
Length	42.16”	21.50”	38.82”
Type	A	B	B
Shaft #2 O.D.	N/A	3.25”	3.25”
Thickness	N/A	0.0906	0.0906
Length	N/A	34.76”	35.16”
Type	N/A	C	C

Figure 9.17.1

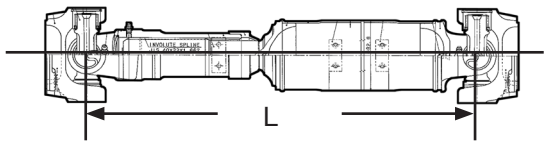
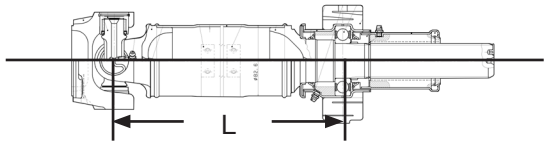
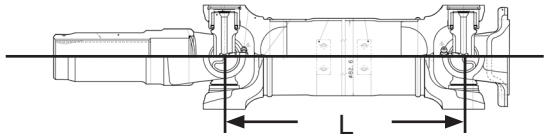
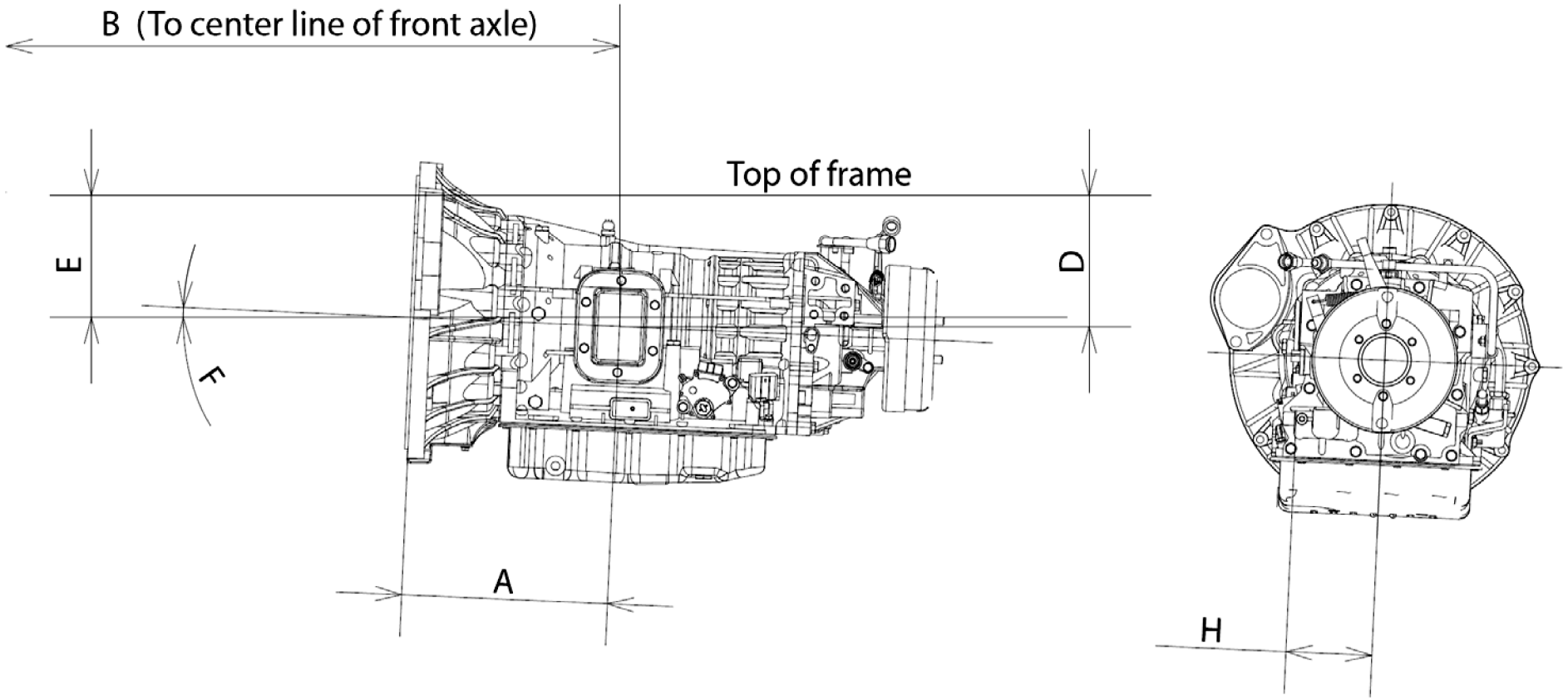
Type	Description	Illustration
Type **A**	1st shaft in 1-piece driveline	
Type **B**	1st shaft in 2-piece driveline	
Type **C**	2nd shaft in 2-piece driveline	

Figure 9.17.2

Note: Dimensions in inches

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

PTO Location, Drive Gear and Opening Information



Trans.	Opening Location	Bolt Pattern	A	B	C	D	E	F	H	PTO Drive Gear Location	Ratio of PTO Drv. Gear Spd. to Eng. Spd.	No. of Teeth	Pitch	Helix Angle	Max. Output Torque
Aisin A460	Left	(Dr 2)	12.35	36.89	0	7.85	7.31	2.5^0	5.16	PTO Gear	1:1 with turbine	69	N/A	0	108 lbs.-ft. @ 1,700 RPM

Figure 9.18.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Opening Diagram

Aisin A460 Automatic Torque Converter
Lock Up Function.

In either the Stationary Preset PTO Mode or Stationary Variable PTO Mode, when engine rpm exceeds 1200 RPM, the torque converter will lock up. The engine rpm can not be modified and the lockup function cannot be turned off. Please not that with PTO applications that operate around 1200 RPM, the transmission software holds the torque converter in lockup until engine speed falls below 1100 RPM

The lock up function will cancel if the transmission shift lever is moved from the park or neutral positions which will remove the trasmission from the stationary mode.

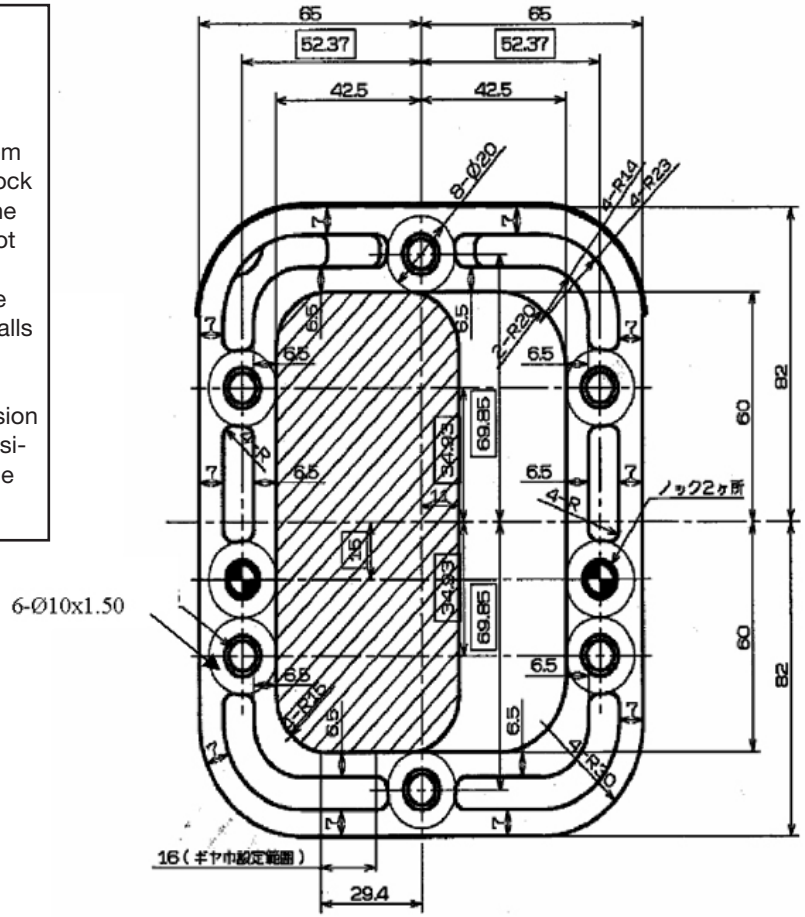


Figure 9.19.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Brake System Diagram, 12,000 GVW

Vacuum Over Hydraulic

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for NPR, NPR-HD, NPR-XD Brake System

(1) Electronic Hydraulic Control Unit (EHCU)
(2) Rear Wheel Cylinder
(3) Vacuum Pump
(4) Check Valve
(5) Exhaust Brake Valve
(6) Magnetic Valve
(7) Check Valve (One-way Valve)
(8) Vacuum Tank
(9) 4-Way Connector
(10) With Metering Valve
(11) W/O Metering Valve
(12) Brake Fluid Reservoir
(13) Electric Vacuum Pump
(14) Master Cylinder
(15) Vacuum Booster (Servo Unit)
(16) Front Wheel Cylinder

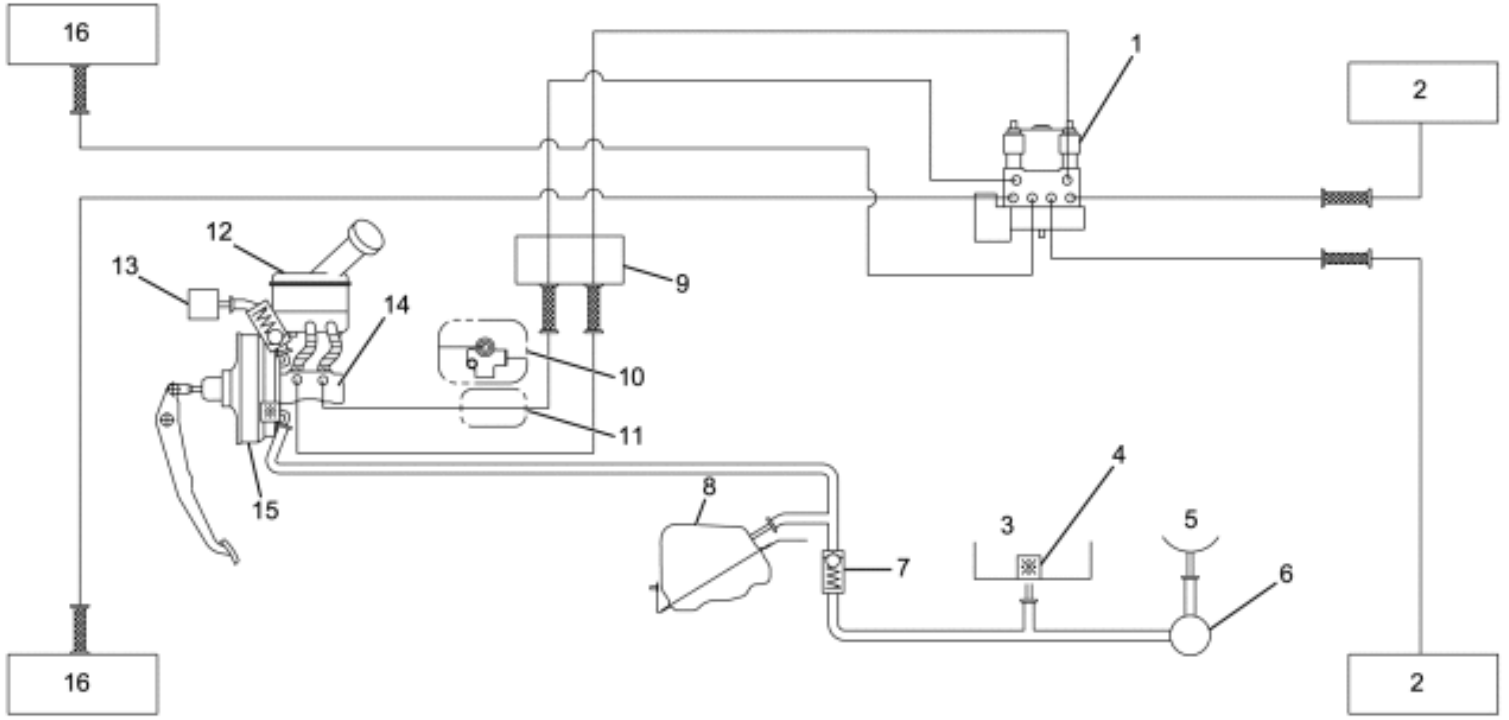


Figure 9.20.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

In-Frame Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 96 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Rear View Fuel Fill

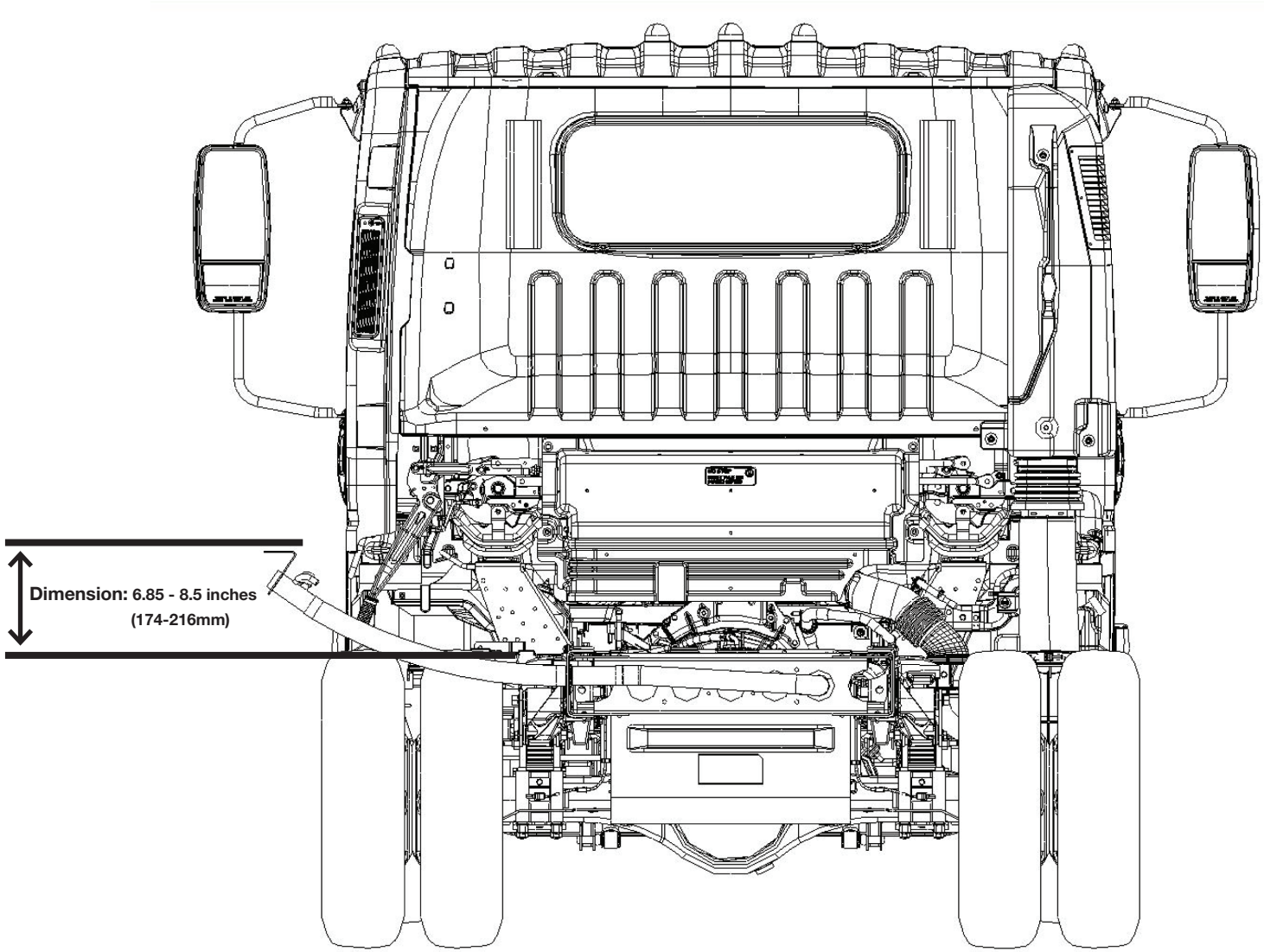


Figure 9.22.1

Top View Fuel Fill

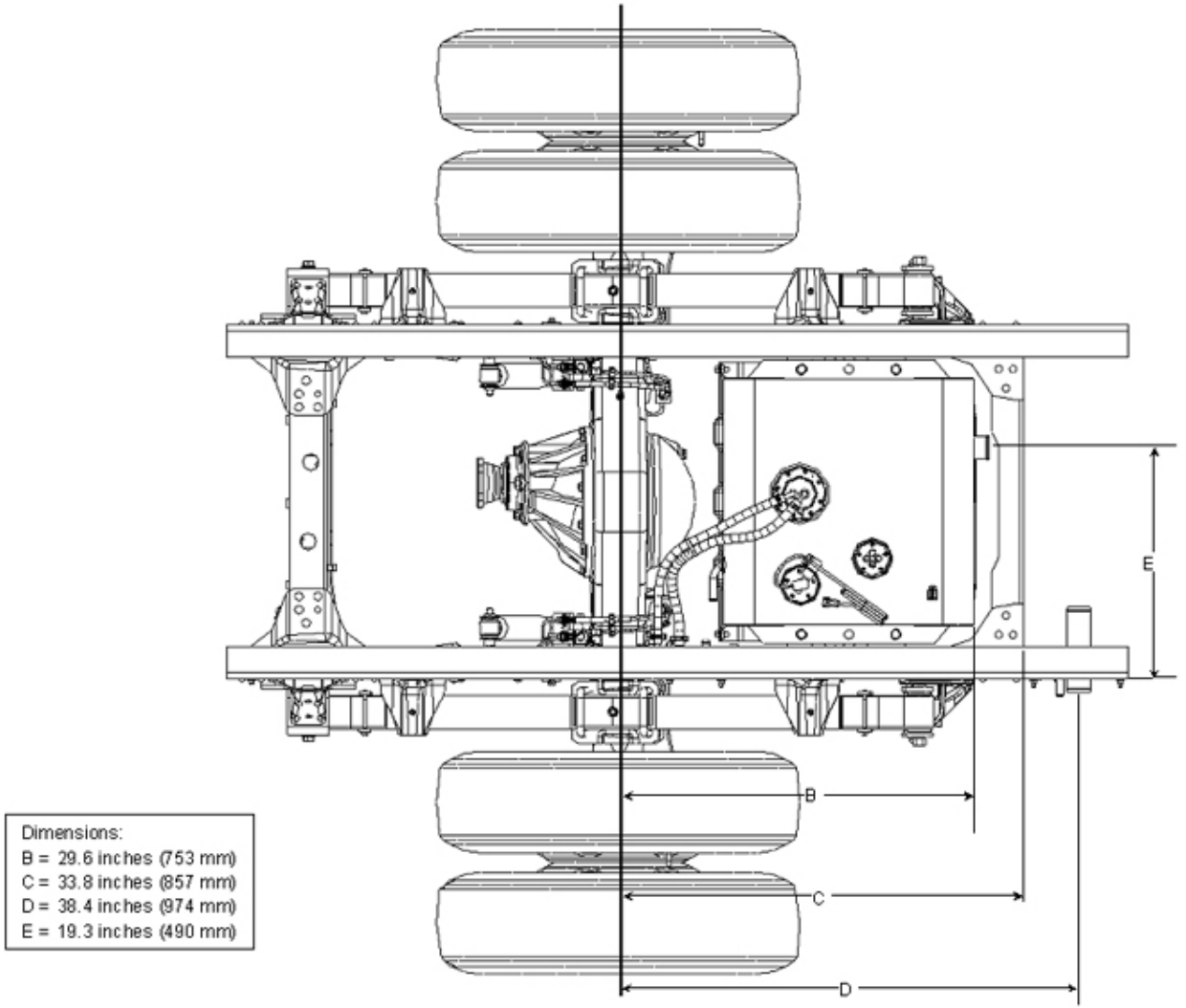
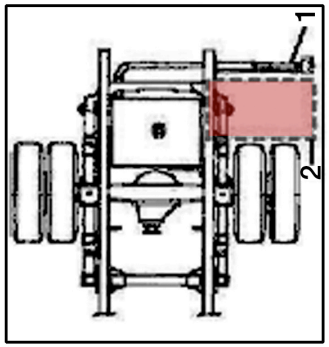


Figure 9.23.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

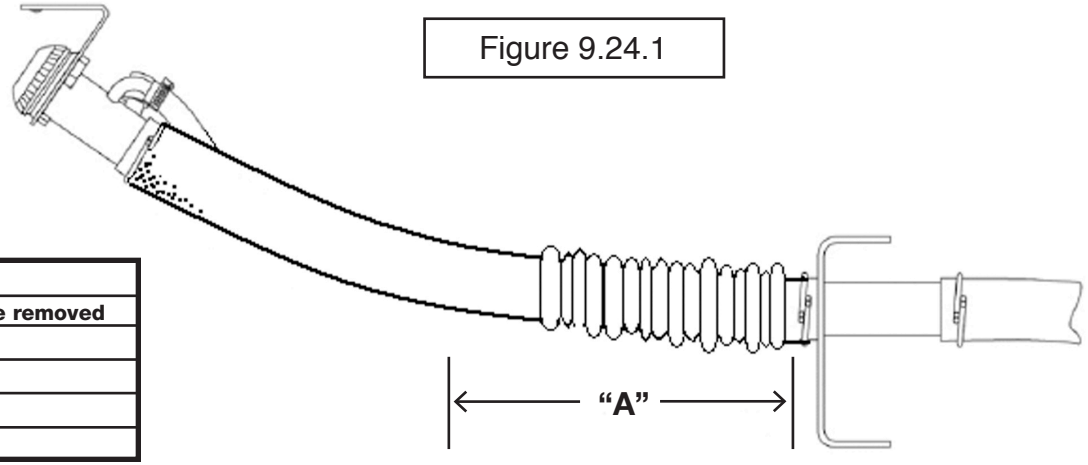
Hose Modification for Various Width Bodies and fuel fill vent Protection



Fuel fill vent and neck should be protected from road spray

1. FUEL FILLER NECK
2. RECOMMENDED MUD FLAP MOUNTING AREA (RED ZONE).

Figure 9.24.1



NPR	
Body Width	**Hose to be removed**
96 remove	1 inches
90 remove	4 inches
86 remove	6 inches
80 remove	9 inches

NOTE: **Shorten hose by “A Dimension” based on chart at left.**

Figure 9.24.2

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.

INSTRUCTIONS FOR DECAL PLACEMENT:

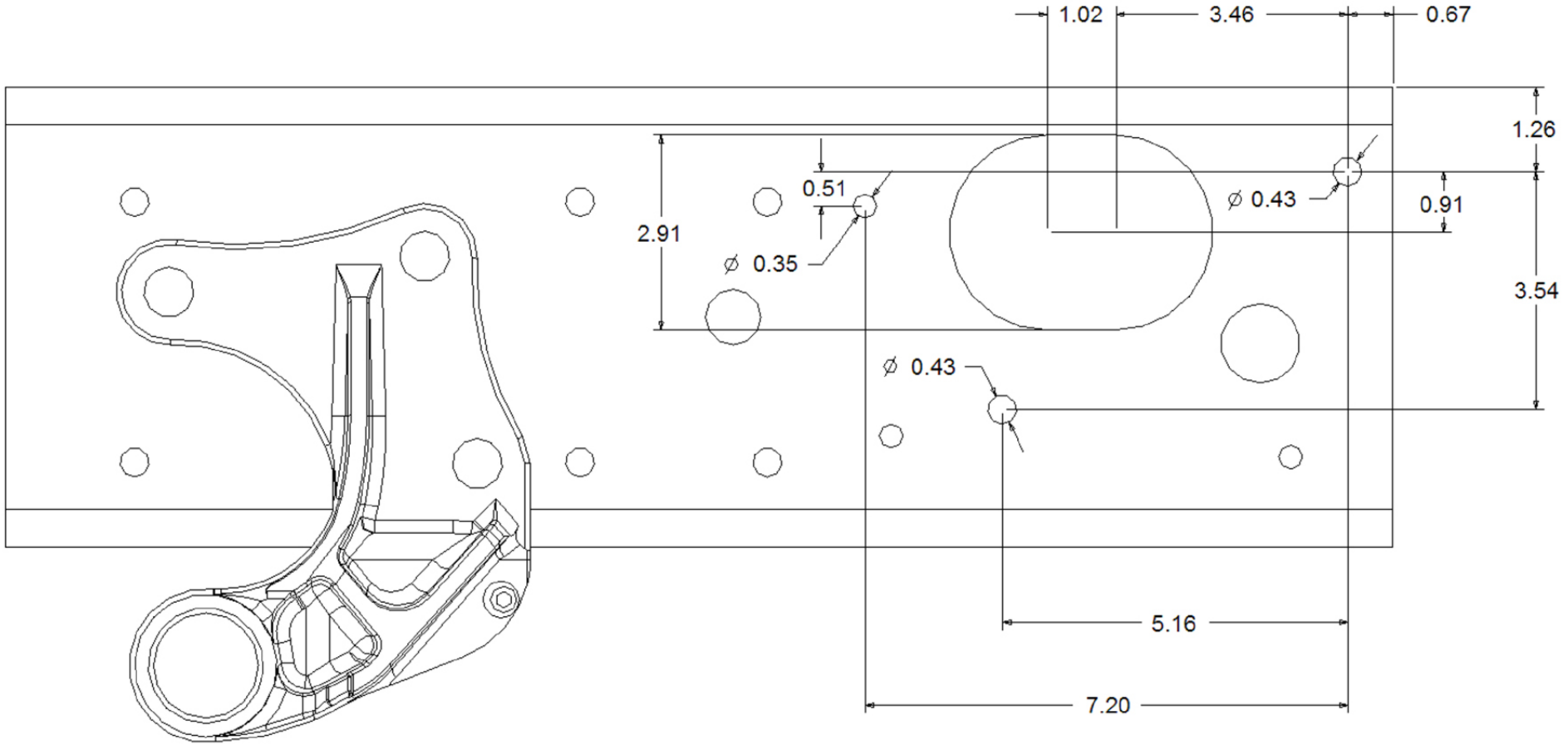
1. The decal must be placed as close as possible to the fuel inlet and be **clearly visible.**
2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
4. For installed bodies that have a fuel door , the decal should be placed above or to the side of the fuel door.

Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 9.25.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Through the Rail Fuel Fill Frame Hole



Note: Dimensions in inches

Figure 9.26.1

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

N-Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

Parts Kit: There are two separate parts kits used for the 2012 model year N-diesel products. Fuel filler kit part number 898171 9090 is used for 14,500 lb and higher GVWR chassis (NPR-HD, NQR, NRR), For reference kit part number 898171 9080 is used for 12,000 lb GVWR chassis (NPR models).
Parts list is shown in ***Figure 9.27.2.*** Parts photos are shown in ***Figure 9.27.1.***

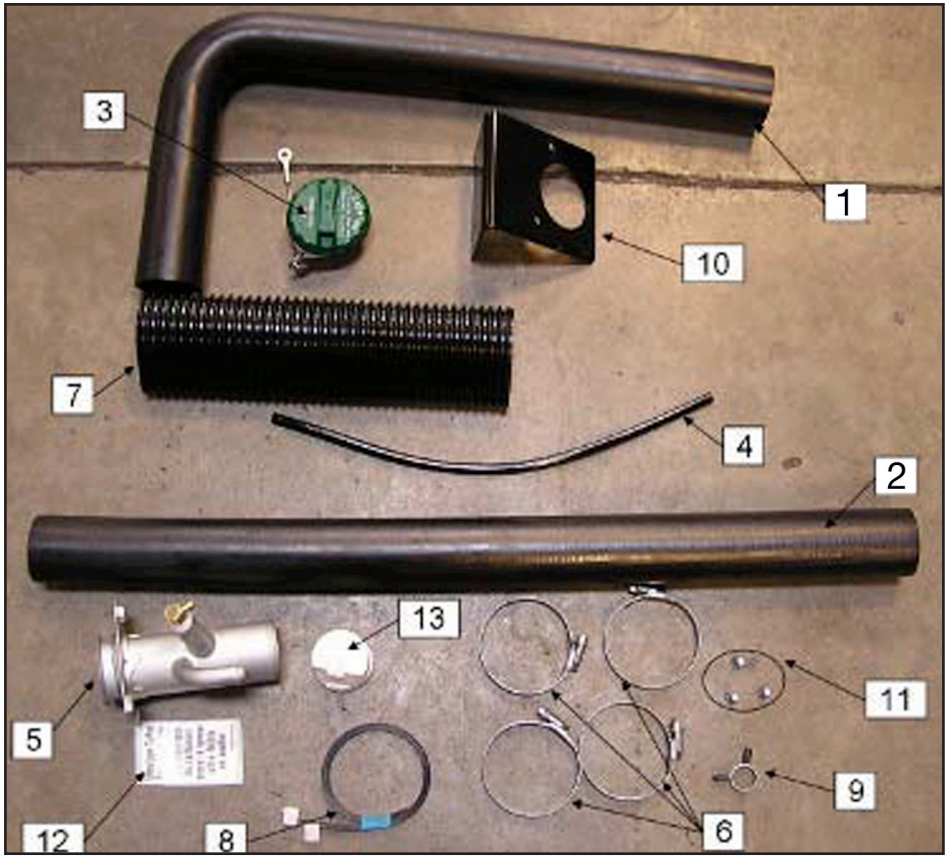


Figure 9.27.1

FUEL FILLER KIT, NPR		898171 9080	
ITEM #	**PART NAME**	**PART #**	**QTY**
1	HOSE: FUEL FILLER NECK	898171 212Y	1
2	HOSE: FUEL FILLER	898006 450Y	1
3	CAP: FILLER	897218 702Y	1
4	HOSE: ROLL-OVER VALVE	898164 876Y	1
5	NECK ASM: FUEL FILLER	898164 877Y	1
6	CLIP: JOINT	898133 349Y	4
7	PROTECTOR: FILLER HOSE	897114 063Y	1
8	CLIP: BAND, HOSE FIXING	109707 107Y	2
9	CLIP: RUBBER, HOSE	894242 034Y	1
10	BRACKET: FILLER NECK	897116 621Y	1
11	SCREW: FILLER NECK	897581 217Y	3
12	CAUTION PLATE	898070 422Y	1
13	SHUTTER: FUEL TANK	898164 404Y	1

Figure 9.27.2

Note :The document in this section is for the 2014 Model Year NPR ECO MAX 12,000 GVW. The “Currently Available” model year chassis are included in this book

Installation Instructions and Considerations:

The fuel tank shutter valve (13) was a new component for 2011 model year. This component is meant to improve fuel splash-back performance of the fuel system. In the 2012 model year a running change was made and this valve (13) was relocated from the fuel tank inlet to the inlet (outboard side) of the fuel filler neck bulkhead assemble that is bolted to the left hand frame rail as shown in **Figure 9.28.1** . This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **Figure 9.28.2**.

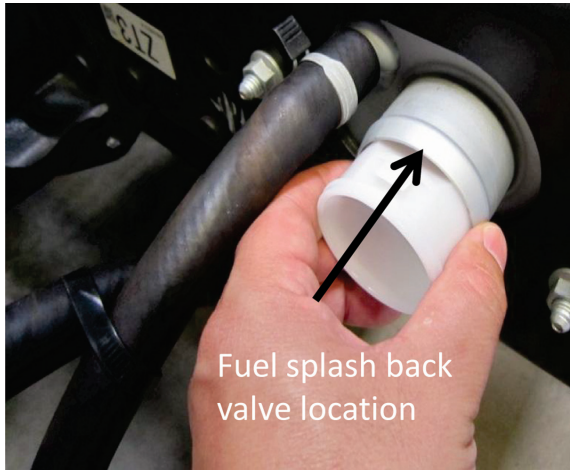


Figure 9.28.1

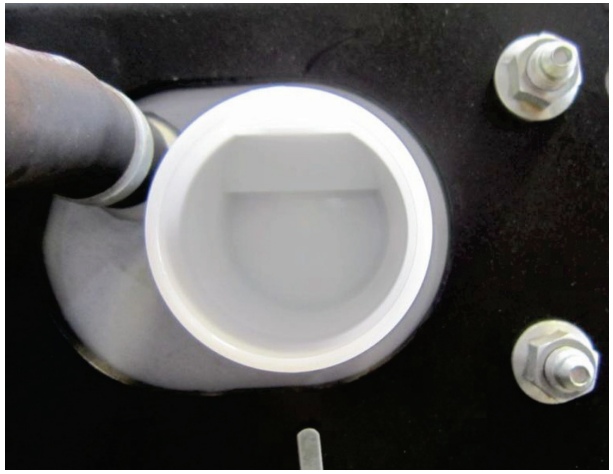


Figure 9.28.2

The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16”and 3/8” from the tank.
This is shown in ***Figure 9.28.3*** below.

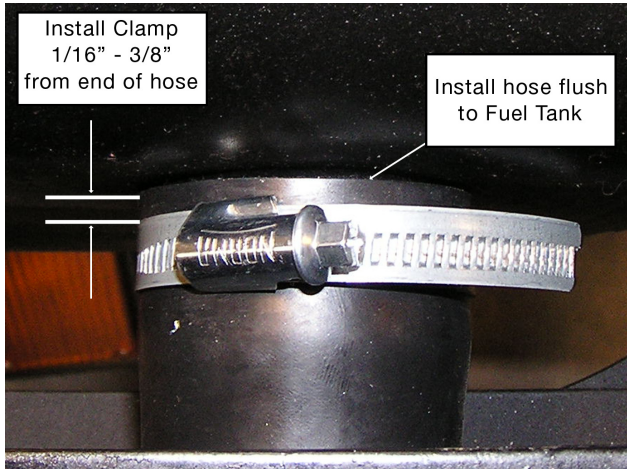


Figure 9.29.3

Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make the roll-over valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in ***Figure 9.329.1.***

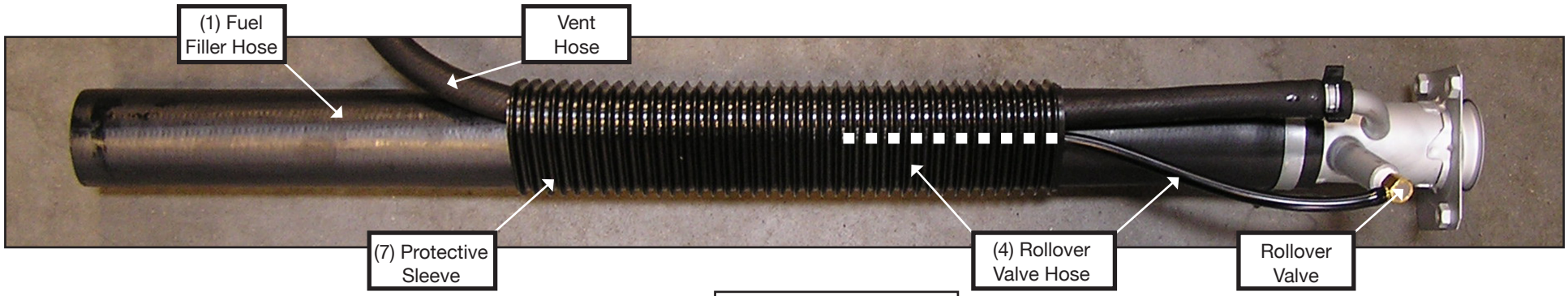


Figure 9.29.1

Filler Neck Installation:

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See ***Figure 9.29.2*** for the proper orientation.

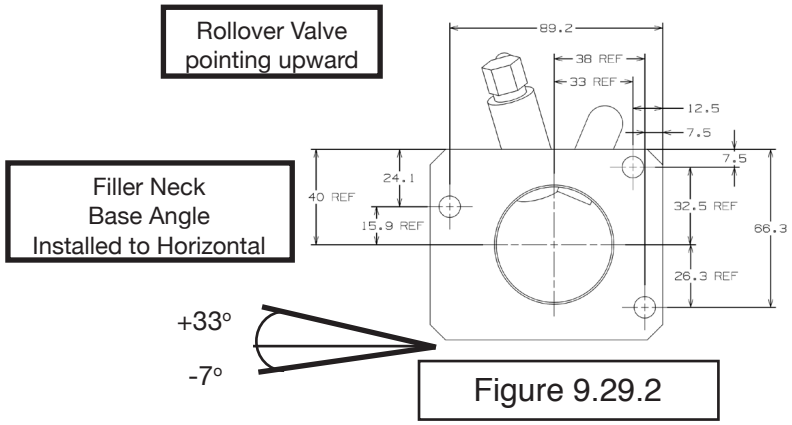


Figure 9.29.2